

REMARKS

Claims 1-34 were presented for examination. Claims 1-34 stand rejected. In the present amendment, claims 1, 2, 3, 12, 13, 14, 23, 25, and 26 have been amended, and claims 35-37 added. No new matter has been introduced. Upon entry of the present amendment, claims 1-37 will be presently pending in this application, of which claims 1, 12, and 23 are independent. Applicants submit that claims 1-37, as amended, are in condition for allowance.

The following comments address all stated grounds of rejection. Applicants respectfully urge the Examiner to pass the claims to allowance in view of the comments set forth below.

Claim Amendments

Claims 1, 2, 3, 12, 13, 14, 23, 25, and 26 have been amended, and claims 35, 37, and 37 have been added to clarify and more fully appreciate the Applicants' claimed invention. Applicants submit that the above claim amendments are not directed to any art rejection. Support for the amended and added claims can be found on page 5, lines 23-32, page 6, lines 22-28; Figures 1 and 2; and throughout the remainder of the specification. No new matter has been introduced. Applicants submit that the presently pending claims are in condition for allowance.

Claim Rejections Under 35 U.S.C. §103**I. Claims 1-34 Stand Rejected Under 35 U.S.C. §103**

Claims 1-34 stand rejected under 35 U.S.C. §103. Independent claims 1, 12 and 23 stand rejected as being unpatentable over Cantin et al (EP 0 690 375 A2) ("Cantin") in view of the Japanese patent application assigned to NEC Corp., Japanese Patent Application No. 1997JP-0303475 ("NEC"). Applicants respectfully traverse this rejection.

A. Independent Claims 1 and 12 Stand Rejected Under 35 U.S.C. §103

Independent claims 1 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC. Claims 1 and 12 are independent claims. Applicants respectfully traverse this rejection and submit that Cantin in view of NEC does not teach or suggest each and every feature recited in independent claims 1 and 12, as amended.

Claims 1 and 12 are directed to a method and computer-readable medium claim, respectively. These claims, as amended, recite a method for retrieving a set of method signatures for a method referenced in a requested method invocation. The method *compares the data types of the input parameters of each method represented by the signatures to data types of input parameters passed by the requested method invocation* to determine suitability for each method to receive input parameters passed by the requested method invocation. These claims further recite ranking the method signatures as a function of the comparison, selecting one of the method signatures according to the ranking, and invoking, in response to the requested method invocation, the method of the object-oriented computing environment corresponding to the selected method signature.

Cantin does not teach or suggest *comparing the data types of the input parameters of each method represented by the signatures to data types of input parameters passed by the requested method invocation*. That is, the claimed invention compares the data type of each input parameter of each method represented by the set of retrieved method signatures to the data type of data passed as an input parameter in the requested method invocation. The comparison determines which of the methods represented by the signatures may be suitable for receiving the type of data passed by the requested method invocation. In the Advisory Action, the Examiner argues that Cantin teaches the comparison step of the claimed invention because Cantin

discusses mapping a selected object to a persistent medium such as a datastore. Applicants respectfully disagree with the Examiner and contend that the mapping the Examiner cites is not similar to the comparing of the claimed invention. Cantin discusses mapping the type and data of an object to and from a datastore. This is different than comparing data types of input parameters of a method represented by a method signature to data types of input parameters passed by a requested method invocation. As such, Cantin fails to teach or suggest *comparing the data types of the input parameters of each method represented by the signatures to data types of input parameters passed by the requested method invocation*.

Cantin does not teach or suggest the recited claim limitations of *ranking the method signatures as a function of the comparison*, and selecting one of the method signatures according to the ranking. The Examiner cites NEC for the purpose of suggesting one ordinarily skilled in the art might modify Cantin to rank method signatures as a function of the comparison, and selecting one of the method signatures according to the ranking. Applicants contend that NEC fails to bridge the factual deficiencies of Cantin.

NEC does not teach or suggest ranking the *method signatures as a function of the comparison*. The comparison recited in this limitation is the comparison of the data types of the input parameters of the method represented by the signatures to the data types of input parameters passed by the requested method invocation. That is, ranking the method signatures is a function of comparing the data types of the input parameters of the method represented by the signatures to the data types of input parameters passed by the requested method invocation. Furthermore, the comparison is performed to determine *suitability of each method to receive input parameters passed by the requested method invocation*. In contrast, NEC discusses ranking the size of variables of data structures stored in the database for using as a composite

index key for searching the database. Comparing member variables of a structure type to rank by size is not comparable to comparing the data type of input parameters of a method represented by a method signature to the data type of an input parameter passed by a requested method invocation to determine *suitability of each method to receive input parameters passed by the requested method invocation*. As such, NEC fails to bridge the factual deficiencies of Cantin.

For at least the aforementioned reasons, Applicants submit that Cantin in view of NEC does not detract from the patentability of independent claims 1 and 12. Claims 2-11 depend on and incorporate the patentable subject matter of independent claim 1, and claims 13-22 depend on and incorporate the patentable subject matter of independent claim 12. As such, Applicants submit that Cantin in view of NEC does not detract from the patentability of dependent claims 1 and 12. Accordingly, Applicants respectfully request the withdrawal of the Examiner's rejection of claims 1-22 under 35 U.S.C. §103.

B. Independent Claim 23 Stands Rejected Under 35 U.S.C. §103

Independent claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC. Applicants respectfully traverse this rejection, and submit that Cantin in view of NEC does not teach or suggest each and every element of independent claim 23, as amended.

Amended claim 23 recites a system comprising an object-oriented environment and a technical computing environment. The object-oriented environment includes an interface for identifying methods provided by objects. The technical computing environment comprises a calculation workspace, a command interpreter, and a signature selector. When the calculation workspace encounters a requested method invocation, the signature selector retrieves and ranks a

list of signatures corresponding to the method referenced in the requested method invocation. The command interpreter invokes in the object-oriented environment one of the methods represented by one of the signatures as a function of the ranking. The ranking *determines suitability of data types of input parameters of each method represented by the signatures to receive data types of input parameters passed by the requested method invocation*. Cantin in view of NEC does not teach or suggest each and every feature recited in amended claim 23.

Cantin does not teach or suggest ranking the signature to *determine suitability of data types of input parameters of each method represented by the signatures to receive data types of input parameters passed by the requested method invocation*. The Examiner cites NEC for the purpose of suggesting one ordinarily skilled in the art might modify Cantin to provide a signature selector to rank a list of signatures according to the claimed invention. NEC discusses ranking the size of variables of data structures stored in the database for using as a composite index key for searching the database. As a database, NEC uses the composite index to search the database to retrieve records from a database. Nowhere does NEC discuss a signature selector retrieving a list of method signatures *and ranking the signatures to determine suitability of data types of input parameters of each method represented by the signatures to receive data types of input parameters passed by the requested method invocation*. As such, NEC fails to bridge the factual deficiencies of Cantin.

For at least the aforementioned reasons, Applicants submit that Cantin in view of NEC does not detract from the patentability of independent claim 23. Claims 24-34 depend on and incorporate the patentable subject matter of independent claim 23. As such, Applicants submit that Cantin in view of NEC does not detract from the patentability of dependent claims 24-34.

Accordingly, Applicants respectfully request the withdrawal of the Examiner's rejection of claims 23-34 under 35 U.S.C. §103.

C. Additional Dependent Claim Rejections Under 35 U.S.C. §103

Dependent claims 3-6, 8, 14-17, 19, 25-29 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC in further view of Hartmut Pohlheim (*"Genetic and Evolutionary Algorithm Toolbox for use with MATLAB"*).

Dependent claims 2, 13 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC in further view of Admitted Prior Art.

Dependent claims 10, 11, 20-22, 31 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC in view of Hartmut Pohlheim and in further view of Bill Venners (*"Eternal Math"*).

Dependent claim 30 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC in further view of John W. Eaton (*"A High Level Interactive Language for Numerical Computations, Edition 3 for Octave Version 2.1x"*).

Dependent claim 33 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cantin in view of NEC and in further view of David M. Gay (*"Symbolic-Algebraic Computations in a Modeling Language for Mathematical Programming"*).

None of the cited references, alone or in combination, disclose, teach or suggest each and every feature of independent claims 1, 12 and 23, as amended. Claims 2-6, 8, 10 and 11 depend on an incorporate the patentable subject matter of amended independent claim 1. Claims 13-17, 19, and 20-22 depend on an incorporate the patentable subject matter of amended independent claim 12. Claims 24, 30-32 and 34 depend on an incorporate the patentable subject matter of

amended independent claim 23. As such, Applicants submit dependent claims 2-6, 8, 10-11, 13-17, 19, 20-22, 24, 30-32 and 34 are patentable and in condition for allowance. Accordingly, Applicants respectfully request the withdrawal of the Examiner's rejection of claims 2-6, 8, 10-11, 13-17, 19, 20-22, 24, 30-32 and 34 under 35 U.S.C. §103.

II. New Claims 34-37

Claims 34-37 have been added to more fully appreciate the Applicants' claimed invention. Claim 34 depends on and incorporates all the patentable subject matter of amended independent claim 1. Claim 35 depends on and incorporates all the patentable subject matter of amended independent claim 12, and claim 37 depends on and incorporates all the patentable subject matter of amended independent claim 23. Dependent claims 34-37 provide an additional basis of patentability and recite that *each signature includes a method name comprising the name of the method in the requested method invocation, and each method represented by the signature corresponds to a method provided by the same object*. That is, the set of signatures retrieved can represent methods with the same name as the method referenced in the requested method invocation. Furthermore, the signatures can represent methods with the same name provided by the same object. The claimed invention can compare data types of input parameters from the method of the signature to data types of input parameters passed by the requested method invocation to determine which one of the methods with the same name from the same object should be invoked.

None of the cited references, including Cantin, disclose, teach or suggest *each signature includes a method name comprising the name of the method in the requested method invocation, and each method represented by the signature corresponds to a method provided by the same*

object. Accordingly, Applicants respectfully submit that none of the cited references, including Cantin, disclose, teach or suggest each and every element of claims 34-37. Therefore, the Applicants respectfully submit that claims 34-37 are patentable and in condition for allowance.

Conclusion

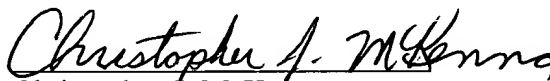
In light of the aforementioned arguments, Applicants contend that each of the Examiners' rejections has been adequately addressed and the pending application is in condition for allowance.

Should the Examiner feel that a telephone conference with Applicants' attorney would expedite prosecution of this application, the Examiner is urged to contact the Applicants' attorney at the telephone number identified below.

Respectfully submitted,

LAHIVE & COCKFIELD, LLP

Dated: November 1, 2004


Christopher J. McKenna
Registration No. 53,302
Attorney for Applicants

Lahive & Cockfield, LLP
28 State Street
Boston, MA 02109
(617) 227-7400